



DESIGN & TECHNOLOGY

EXAM BOARD: AQA

Subject Assessment Grid

	SKILL: IDENTIFYING AND INVESTIGATING (AO1) <i>Identify, investigate and outline design possibilities to address needs and wants</i>	SKILL: OUTLINING DESIGN POSSIBILITIES (AO1) <i>Identify, investigate and outline design possibilities to address needs and wants</i>	SKILL: GENERATING DESIGN IDEAS (AO2) <i>Design and make prototypes that are fit for purpose</i>	SKILL: DESIGNING AND MAKING (AO2) <i>Design and make prototypes that are fit for purpose</i>	SKILL: REALISING DESIGN IDEAS (AO2) <i>Design and make prototypes</i>	SKILL: ANALYSING AND EVALUATING (AO3) <i>Analyse and evaluate:</i> <ul style="list-style-type: none"> • Design decisions and outcomes, including for prototypes made by themselves and others • Wider issues in design and technology 	SKILL: DEMONSTRATING AND APPLYING KNOWLEDGE (AO4) <i>Demonstrate and apply knowledge and understanding of:</i> <ul style="list-style-type: none"> • Technical principles • Designing and making principles
+ 9 -	<ul style="list-style-type: none"> • Design possibilities identified and thoroughly explored, directly linked to a contextual challenge demonstrating excellent understanding of the problems. • A user/client has been clearly identified and is entirely relevant in all aspects to the contextual challenge and student has undertaken a comprehensive investigation of their needs and wants, with a clear explanation and justification of all aspects of these. • Comprehensive investigation into the work of others that clearly informs ideas. • Excellent design focus and full understanding of the impact on society including; economic and social effects. • Extensive evidence that investigation of design possibilities has taken place throughout the project with excellent justification and understanding of possibilities identified. 	<ul style="list-style-type: none"> • Comprehensive design brief which clearly justifies how they have considered their user's/client's needs and wants and links directly to the context selected. • Comprehensive design specification with very high level of justification linking to the needs and wants of the client/user. Fully informs subsequent design stages. 	<ul style="list-style-type: none"> • Imaginative, creative and innovative ideas have been generated, fully avoiding design fixation and with full consideration of functionality, aesthetics and innovation. • Ideas have been generated, that take full account of ongoing investigation that is both fully relevant and focused. • Extensive experimentation and excellent communication is evident, using a wide range of techniques. • Imaginative use of different purposes and as part of a fully integrated approach to designing. 	<ul style="list-style-type: none"> • Outstanding development work is evident, using a wide range of 2D/3D techniques (including CAD where appropriate) in order to develop a prototype. • Outstanding modelling, using a wide variety of methods to test their design ideas, fully meeting all requirements. • Fully appropriate materials/components selected with extensive research into their working properties and availability. • Fully detailed manufacturing specification is produced with comprehensive justification to inform manufacture. 	<ul style="list-style-type: none"> • Consistently selecting the correct tools, materials and equipment (including CAM where appropriate) have been consistently used or operated safely with an exceptionally high level of skill. • An outstanding use of quality control is evident to ensure the prototype is accurate by consistently applying very close tolerances. • Prototype shows an exceptionally high level of making/finishing skills that are fully consistent and appropriate to the desired outcome. • An exceptionally high-quality prototype that has the potential to be commercially viable has been produced and fully meets the needs of the client/user. 	<ul style="list-style-type: none"> • Outstanding evidence that various iterations are as a direct result of consideration linked to testing, analysis and evaluation of the prototype, including well considered feedback from third parties. • Comprehensive testing of all aspects of the final prototype against the design brief and specification. Fully detailed and justified reference is made to any modifications both proposed and undertaken. • Excellent ongoing analysis and evaluation evident throughout the project that clearly influences the design brief and the design and manufacturing specifications. 	<ul style="list-style-type: none"> • Comprehensive description of a process that is accurate with all stages present and in correct order. • Excellent understanding of the process with a labelled diagram and good notes to explain the process.



Subject Assessment Grid

+ 8 -	<ul style="list-style-type: none"> Design possibilities identified and explored, linked to a contextual challenge demonstrating very good understanding of the problems. A user/client has been identified and is very relevant in all aspects to the contextual challenge. The student has undertaken a thorough investigation of their needs and wants, with a sound explanation and justification of many aspects of these. Thorough investigation into the work of others that informs ideas. A very good design focus showing understanding of the impact on society including economic and social effects. Comprehensive evidence that investigation of design possibilities has taken place throughout the projects with sound justification and understanding of the possibilities identified. 	<ul style="list-style-type: none"> Extensive design brief which clearly shows how they have considered their user's/client's needs and links to the context selected. Extensive design specification with a high level of justification linking to the needs and wants of the client/user. Nearly all the work informs subsequent design stages. 	<ul style="list-style-type: none"> Imaginative ideas have been generated, avoiding design fixation and with sound consideration of functionality, aesthetics and innovation. Ideas have been generated, that take account of on-going investigation that is both relevant and focused. Extensive experimentation and very pleasing communication is evident, using a wide range of techniques. Imaginative use of different design strategies for different purposes and as part of an integrated approach to designing. 	<ul style="list-style-type: none"> An excellent level of detailed development work is evident using a wide range of 2D/3D techniques (including CAD where appropriate) in order to develop a prototype. Excellent modelling, using a wide variety of methods to test their design ideas, fully meeting all requirements. Appropriate materials/components selected with extensive research into their working properties and availability throughout. An extensive manufacturing specification is produced with comprehensive justification to inform manufacture. 	<ul style="list-style-type: none"> The correct tools, materials and equipment (including CAM where appropriate) have been used effectively and operated safely with a high level of skill. An excellent level of quality control is event to ensure the prototype is accurate by effectively applying close tolerances. Prototype shows an excellent level of making/finishing skills that are fully consistent and appropriate to the desired outcome. A high quality prototype that has the potential to be commercially viable has been produced and meets the needs of the client/user. 	<ul style="list-style-type: none"> Extensive evidence showing various iterations are linked to testing, analysis and evaluation of the prototype, including well considered feedback from third parties. Extensive testing of all aspects of the final prototype against the design brief and specification. Detailed and justified reference is made to any modifications both proposed and undertaken. Thorough ongoing analysis and evaluation evident throughout the project that clearly influences the design brief and the design and manufacturing specifications. 	<ul style="list-style-type: none"> Extensive description of a process that almost fully accurate with all stages present and in correct order. Thorough understanding of the process with a labelled diagram and good notes to explain the process.
-------------	--	--	---	--	---	--	---



Subject Assessment Grid

+ 7 -	<ul style="list-style-type: none"> Design possibilities identified and linked to a specific challenge demonstrating a good understanding of the problems/opportunities. A user/client has been identified that is largely relevant to the challenge. The student has undertaken an investigation of their needs and wants, with a sound explanation and justification of most aspects of these. Detailed investigation into the work of others that has influenced ideas. A sound design focus and understanding of the impact on society including economic and social effects. Systematic evidence of the investigation of design possibilities at various stages and levels in the project with relevant justification and understand of possibilities identified. 	<ul style="list-style-type: none"> A very good design brief with some attempt to justify how they have considered their client's needs and wants and has clear links to the context selected. A very good design specification with sound justification linking to the needs and wants of the client/user. Some attempts have been made to inform subsequent design stages. 	<ul style="list-style-type: none"> Creative ideas have been generated which avoid design fixation and have shown consideration of functionality and aesthetics. Ideas have been generated, taking into account investigations that are relevant. A pleasing level of experimentation and communication is evident, using a range of techniques. A clear use of different design strategies for different purposes as an approach to designing is evident. 	<ul style="list-style-type: none"> Very good development work is evident, using a range of 2D/3D techniques (including CAD where appropriate) in order to develop a prototype. Good modelling which uses a variety of methods to test their design ideas/thinking. Materials/components selected are generally appropriate with sound research into their working properties and availability. A manufacturing specification is produced with good justification to inform manufacture. 	<ul style="list-style-type: none"> The correct tools, materials and equipment (including CAM where appropriate) have been used or operated safely with a good level of skill. Quality control is clearly evident ensuring the prototype is largely accurate through the application of tolerances. Prototype shows a good level of making/finishing skills that are generally consistent and appropriate to the desired outcome. A good quality prototype that may have the potential to be commercially viable has been produced with meets the majority of the needs of the client/user. 	<ul style="list-style-type: none"> There is clear evidence that various iterations are as a result of consideration linked to testing, analysis and evaluation of the prototype, including some consideration of feedback from third parties. Good testing of most aspects of the final prototype against the design brief and specification. Detailed reference is made to modifications either proposed or undertaken. A sound analysis and evaluation at most stages of the project that influences the design brief and the design and manufacturing specifications. 	<ul style="list-style-type: none"> A very good description of a process that is mostly accurate with all stages present and in correct order. A good understanding of the process with a labelled diagram and/or good notes to explain the process.
---------------------	---	---	--	---	--	--	---



Subject Assessment Grid

+ 6 -	<ul style="list-style-type: none"> Design possibilities identified and explored, mostly linked to a contextual challenge demonstrating adequate understanding of the problems/opportunities. A user/client has been identified that is partially relevant to the contextual challenge. Student has undertaken an investigation of their needs and wants, with some explanation and justification of some aspects of these. There is evidence of investigation into the work of others which has had an effect on their ideas. There is a design focus and understanding of the impact on society including economic and social effects. Investigation of design possibilities goes beyond the initial stages of the project. Some clear justification and understanding of possibilities of the design have been identified. 	<ul style="list-style-type: none"> A well thought out design brief with some consideration of their client's needs and wants is evident, as is the relevance to the context selected. A well thought out design specification lacking some detail. Some justification linking to the needs and wants of the client/user. Informs subsequent design states to some extent. 	<ul style="list-style-type: none"> Imaginative ideas have been generated with a degree of design fixation and having some consideration of functionality, aesthetics and innovation. Ideas have been generated that take some account of investigations carried out but may lack relevance and/or focus. Experimentation is sufficient to generate a range of ideas. Communication is evident, using a range of techniques. Different design strategies explored but only at a superficial level with the approach tending to be fairly narrow. 	<ul style="list-style-type: none"> Development work is sufficient, using some 2D/3D techniques (including CAD where appropriate) in order to develop prototype. Modelling is sufficient, using a variety of methods to test their design ideas meeting some requirements. Materials/components selected with some research into their working properties and availability. Some of these may not be fully appropriate for purpose. Adequate manufacturing specification contains sufficient detail with some justification to inform manufacture. 	<ul style="list-style-type: none"> The correct tools, materials and equipment (including CAM where appropriate) have been used or operated safely with an adequate level of skill. Some quality control is evident through measurement and testing. Prototype shows an adequate level of making/finishing skills that are mostly appropriate to the desired outcome. A prototype of sufficient quality has been produced that has some potential to be commercially viable, although further developments would be required, before it fully meet the needs of the client/user. 	<ul style="list-style-type: none"> Some evidence that various iterations are as a result of considerations linked to testing, analysis and evaluation of the prototype, including basic consideration of feedback from third parties. Adequate testing of some aspects of the final prototype against the design brief and specification. Some reference is made to modifications either proposed or undertaken. Adequate analysis and evaluation is present at some stages of the project but does not have sufficient influence on the design brief and the design and manufacturing specifications. 	<ul style="list-style-type: none"> Methodical description of most stages of the process, usually in the correct order with some inaccuracies.
---------------------	--	---	--	---	---	--	--



Subject Assessment Grid

+ 5 -	<ul style="list-style-type: none"> • Simple design possibilities identified and considered with some link to the contextual challenge demonstrating an simplistic understanding of the problems/opportunities. • An outline idea of a user/client has been thought about that has some relevance to the contextual challenge. Student investigation of needs and wants, has shown some aspects have been considered. • There is some evidence of investigation into the work of others which has had an effect on their ideas. • There is some evidence of a design focus with an understanding of the impact this has on society including economic and social effects. • Investigation of design possibilities goes beyond the initial stages of the project but only some understanding of possibilities has been identified. 	<ul style="list-style-type: none"> • A weaker design brief that only shows some consideration of their client's needs and wants is evident, as is the relevance to the context selected. • A weaker design specification that lacks detail. Some justification linking the needs and wants of the client/user. However has some influence on the subsequent design stages. 	<ul style="list-style-type: none"> • Ideas have been generated, a degree of design fixation evident. However, some consideration of functionality, aesthetics and innovation. • Ideas have been generated but take limited account of investigations carried out and lack focus. • Limited experimentation has been shown to generate ideas. Communication is simplistic but uses several appropriate techniques. • Design strategies are explored superficially, approach is fairly narrow. 	<ul style="list-style-type: none"> • Development work evident but superficial, using some 2D/3D techniques (including CAD where appropriate) in order to develop a prototype. • Modelling is simplistic but attempts to use a variety of methods to test their design ideas meeting some requirements. • Materials/components selected with some consideration of their working properties and availability. Elements of these may not be fully appropriate for purpose. • Manufacturing specification contains basic detail with some justification to inform manufacture. 	<ul style="list-style-type: none"> • The tools, materials and equipment (including CAM where appropriate) have been used or operated safely with a simple level of skill applied. • Simple quality control is evident through measurement and testing. • Prototype shows a simple level of making/finishing skills that are mostly appropriate to the desired outcome. • A simple prototype has been produced that has potential to be commercially viable. Further development would be required, before it met many of the needs of the client/user. 	<ul style="list-style-type: none"> • There is partial evidence that various iterations are as a result of considerations linked to testing, analysis and evaluation of the prototype, including limited feedback from third parties. • Testing of a few aspects of the final prototype against the design brief and specification. Reference has been made to modifications either proposed or undertaken. • Analysis and evaluation is present at points of the project but does not influence on the design brief and the design and manufacturing specifications significantly. 	<ul style="list-style-type: none"> • Sound understanding of the process with a mainly correct labelled diagram or good notes. Response may lack some important key points.
---------------------	---	---	--	--	---	--	---



Subject Assessment Grid

+ 4 -	<ul style="list-style-type: none"> • Limited design possibilities are identified and some are linked to the contextual challenge. The student demonstrates a limited understanding of the problems/opportunities. • An attempt has been made to identify a user/client but is not very relevant to the contextual challenge. The student has undertaken a basic investigation of their needs and wants but has given little explanation and justification of these. • Only a basic investigation into the work of others has been used to inform their ideas. • Limited design focus and understanding of the impact on society including economic and social effects. • Investigation of design possibilities only takes place in the initial stages of the project and there is very little understanding of the possibilities identified. 	<ul style="list-style-type: none"> • A design brief that only contains limited consideration of their client's needs and wants and has little relevance to the context selected. • A design specification that has limited detail. Limited justification linking to the needs and wants of the client/user. Limited influence on subsequent design stages. 	<ul style="list-style-type: none"> • Limited ideas have been generated with a clear design fixation. Limited consideration of functionality, aesthetics and innovation. • Ideas generated taking little account of investigations carried out, lack relevance. • Limited experimentation and communication is evident, using a limited number of techniques. • Limited use of a single design strategy. 	<ul style="list-style-type: none"> • Limited development work is evident, using a limited range of 2D/3D techniques (including CAD where appropriate) in order to develop a prototype. • Modelling is limited, using a limited number of methods to test their design ideas meeting requirements only superficially. • Materials/components selected with limited research into their working properties or availability and may not be fully fit for purpose. • Limited manufacturing specification that lacks detail and has minimal justification to inform manufacture. 	<ul style="list-style-type: none"> • Tools, materials and equipment (including CAM where appropriate) have been used or operated safely at a basic level. • Limited quality control is evident through measurement only. • Prototype shows a limited level of making/finishing skills which usually appropriate for the desired outcome. • A prototype of limited quality has been produced. It has some potential to be commercially viable although further work would be required and even then, may only partially meet the needs of the client/user. 	<ul style="list-style-type: none"> • Limited evidence that various iterations are as a result of considerations linked to testing, analysis and evaluation of the prototype. • Limited testing of some aspects of the final prototype against the design brief and specification. • Little reference is made to any modifications either proposed or undertaken. • Superficial analysis and evaluation. Little influence on the design brief and the design and manufacturing specifications. 	<ul style="list-style-type: none"> • Process described using mostly appropriate terminology with some gaps.
---------------------	---	--	---	--	---	--	--



Subject Assessment Grid

<p>+ 3 -</p>	<ul style="list-style-type: none"> • Basic design possibilities identified. Link to a contextual challenge is unclear. The student demonstrates only a limited understanding of the problems/opportunities. • An attempt has been made to identify a user/client but is not completely relevant to the contextual challenge. Student has undertaken a basic investigation of their needs and wants but given little explanation and justification of these. • Basic investigation into the work of others that has not been used to inform their ideas. • A basic design focus and understanding of the impact on society including economic and social effects. • Investigation of design possibilities only takes place in the initial stages of the project and there is basic understanding of possibilities identified. 	<ul style="list-style-type: none"> • Basic design brief that contains only limited consideration of their client's needs and wants and has little or no relevance to the context selected. • Basic design specification has minimal detail. Limited justification linking to the needs and wants of the client/user. Very little influence on subsequent design stages. 	<ul style="list-style-type: none"> • Basic ideas have been generated with clear design fixation and limited consideration of functionality, aesthetics and innovation. • Ideas generated taking little or no account of investigations carried out. • Basic experimentation and communication is evident, using a limited number of techniques. • Basic use of a single design strategy. 	<ul style="list-style-type: none"> • Basic development work is evident, using a limited range of 2D/3D techniques (including CAD where appropriate) in order to develop a prototype. • Modelling is basic, using a limited number of methods to test their design ideas meeting requirements only superficially. • Materials/components selected with minimal research into their working properties or availability and may not be fully fit for purpose. • Basic manufacturing specification that lacks detail and has minimal justification to inform manufacture. 	<ul style="list-style-type: none"> • Tools, materials and equipment (including CAM where appropriate) have been used or operated safely at a basic level. • Basic quality control is evident through measurement only. • The prototype shows a developing level of making/finishing skills which is often appropriate for the desired outcome. • A prototype of basic quality has been produced it has limited potential to be commercially viable and, in most instances, fails to fulfil the needs of the client/user. 	<ul style="list-style-type: none"> • Limited evidence that various iterations are as a result of considerations linked to testing, analysis and evaluations of the prototype. • Basic testing of some aspects of the final prototype against the design brief and specification. Little reference is made to any modifications either proposed or undertaken. • Superficial analysis and evaluation. Little influence on the design brief and the design and manufacturing specifications. 	<ul style="list-style-type: none"> • Some understanding demonstrated either with a vague diagram or with some short description of the process.
<p>+ 2 -</p>	<ul style="list-style-type: none"> • Limited understanding of the problems/opportunities. • Some attempt has been made to identify a user/client. • A simplistic investigation of their needs and wants with very little explanation. • Investigation into the work of others has been put to limited use to inform their ideas. • Very limited design focus with little understanding of the impact on society including economic and social effects. • Investigation of design possibilities is superficial and takes place only in the initial stages of the project. 	<ul style="list-style-type: none"> • The design brief contains only very limited consideration of the client's needs and wants and has only some relevance to the context selected. • The design specification has some detail. Very limited thought on needs and wants of the client/user with little influence on subsequent design stages. 	<ul style="list-style-type: none"> • Simple ideas have been generated. Designs are fixated and very limited, little consideration of functionality or aesthetics have been made. • Ideas generated take little account of previous investigations. • Very limited experimentation and communication is evident, which makes us of only few relevant techniques. • Very limited use of a single design strategy. 	<ul style="list-style-type: none"> • Very limited development work is evident. Some use of 2D/3D techniques (including CAD where appropriate) in order to develop a prototype. • Modelling is very basic. Simple methods are used to test design ideas and thinking. • Materials/components have been selected with very little research into their working properties or availability therefore may not be fit for their intended purpose. • Only a very basic manufacturing specification which lacks detail or justification has been produced. 	<ul style="list-style-type: none"> • Tools, materials and equipment (including CAM where appropriate) have been used safely whilst supervised. • Very limited quality control is evident. • The prototype shows poor making/finishing skills however some are appropriate to the desired outcome. • A prototype has been produced however it has very little potential to be commercially viable and does not address the needs of the potential client/user. 	<ul style="list-style-type: none"> • Limited evidence that various iterations are as a result of considerations linked to testing, analysis and evaluation of the prototype. • Very basic testing of some aspects of the final prototype against the design brief and specification. Very little reference is made to any modifications either proposed or undertaken. • Very limited analysis and evaluation. Very little influence on the design brief and the design and manufacturing specifications. 	<ul style="list-style-type: none"> • Basic description of the process, missing some stages and with some errors.



Subject Assessment Grid

+ 1 -	<ul style="list-style-type: none"> • Very limited understanding of the problems/opportunities. • Very little attempt has been made to identify a user/client and is not relevant to the contextual challenge. • Very little investigation of needs and wants, with no explanation of these. • Investigation into the work of others has failed to inform ideas. • Investigation of design possibilities is very limited, little or no understanding of possibilities identified. 	<ul style="list-style-type: none"> • The design brief contains very little consideration of their client's needs and wants. • The design specification has minimal detail. 	<ul style="list-style-type: none"> • Very basic ideas have been generated which are mainly fixated on a limited consideration of the aesthetics of the outcome. • Ideas generated take very little or no account of investigations carried out. • Very basic communication is evident. • No real design strategy evident. 	<ul style="list-style-type: none"> • Very little development work. Simple 2D/3D techniques (including some CAD where appropriate) have been used to develop a prototype. • Very poor-quality modelling using limited methods to test their design ideas. • Materials/components selected and are often not fully fit for purpose. • Only a very basic manufacturing specification has been produced. 	<ul style="list-style-type: none"> • Tools, materials and equipment (including CAM where appropriate) have been used under direct supervision. • No real quality control throughout. • Prototype shows a very poor level of making/finishing. • The prototype has no potential to be commercially viable. 	<ul style="list-style-type: none"> • Only very basic testing of the final prototype. • Very little reference is made to any modifications that have been made. • A very limited attempt to evaluate the outcome at any level. 	<ul style="list-style-type: none"> • May produce a vague diagram without actually naming the process.
+ WT -	The student is currently working towards a grade in this skill.	The student is currently working towards a grade in this skill.	The student is currently working towards a grade in this skill.	The student is currently working towards a grade in this skill.	The student is currently working towards a grade in this skill.	The student is currently working towards a grade in this skill.	The student is currently working towards a grade in this skill.